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**United States Patent [19]**  
Kuroda et al.

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[54] **ROTATION CONTROL APPARATUS  
OPERATING WITH A SYNC SIGNAL  
HAVING VARIABLE INTERVALS**

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[51] Int. Cl.<sup>6</sup> ..... **G11B 7/00**  
[52] U.S. Cl. ..... 369/47  
[58] Field of Search ..... 369/47, 50, 60,  
369/44.26, 54, 58, 48, 124

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[57] ABSTRACT

A rotation control apparatus which can maintain an accurate rotating state even in a high density optical disk (DVD) having a structure such that parts of the sync signal are recorded at an interval different from that of the other sync signal parts. The apparatus has: a unit period signal generator for generating a period signal of a unit period; a pre-pit detector for detecting a pre-pit from the DVD; a phase difference detector for detecting a phase difference between the detection timing of the pre-pit and the unit period signal; and a holding circuit for holding the phase difference detected. The rotation of the DVD is controlled on the basis of the phase difference held at the holding circuit.

**4 Claims, 11 Drawing Sheets**

